APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/536,880	03/27/2000	Charles F. Neugebauer	00-S-023	3367

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EXAMINER
BRIER, JEFFERY A

ART UNIT	PAPER NUMBER
2672	

DATE MAILED: 09/11/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

	Application No.	Applicant(s)
Office Action Summary	09/536,880	NEUGEBAUER, CHARLES F.
	Examiner	Art Unit
	Jeffery A. Brier	2672

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☐ Responsive to communication(s) filed on _____ .

2a) ☐ This action is **FINAL.**   2b) ☒ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) *1-24* is/are pending in the application.

   4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) ☐ Claim(s) _____ is/are allowed.

6) ☒ Claim(s) *1-24* is/are rejected.

7) ☐ Claim(s) _____ is/are objected to.

8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) ☒ The specification is objected to by the Examiner.

10) ☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

   Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11) ☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

   If approved, corrected drawings are required in reply to this Office action.

12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

   a)☐ All b)☐ Some * c)☐ None of:

   1. ☐ Certified copies of the priority documents have been received.

   2. ☐ Certified copies of the priority documents have been received in Application No. _____ .

   3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

   * See the attached detailed Office action for a list of the certified copies not received.

14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

   a) ☐ The translation of the foreign language provisional application has been received.

15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☒ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) *3* .

4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

Drawings

1.   This application has been filed with informal drawings which are acceptable for examination purposes only. Formal drawings will be required when the application is allowed. The quality of the drawings are poor and poorly hand written letters and numbers are present.

Specification

2.   The disclosure is objected to because of the following informalities: the specification used the term "local context metric". This term is being used out of its ordinary meaning. The accepted meaning of metric deals with the metric measurement system. Applicant is requested to reanalyze applicant's use of this term.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

3.   The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4.   Claims 1-24 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

5.   While applicant may be his or her own lexicographer, a term in a claim may not be given a meaning repugnant to the usual meaning of that term. See *In re Hill*, 161

F.2d 367, 73 USPQ 482 (CCPA 1947). The term "local context metric" in claim 1, 3, 6,

8, 10, 12, 14, 15, 16, 18, 20, 21 and 22 is used by the claim to mean "the context of the

local area of pixels of the image," while the accepted meaning of "metric deals with the

metric measurement system."

Claim Rejections - 35 USC § 102

6.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that

form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act

of 1999 (AIPA) do not apply to the examination of this application as the application

being examined was not (1) filed on or after November 29, 2000, or (2) voluntarily

published under 35 U.S.C. 122(b). Therefore, this application is examined under 35

U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

7.   Claims 1, 2, 5, 6, 8, 9, 12, 14, 15, 18, 20 and 21 are rejected under 35

U.S.C. 102(e) as being anticipated by Miyake, U.S. Patent No. 6,088,489. Figure 11

and column 9 line 20 to column 10 line 23 describes scaling a source image to produce

a destination image. The following detailed analysis illustrates how Miyake anticipates

applicants claimed invention.

Claim 1:

Miyake teaches a method for scaling a source image to produce a destination image

(column 1 lines 5-13 and column 5 lines 18-44, figure 11), said method

comprising the steps of:

calculating a local context metric from a local portion of the source image

(column 9 lines 31-34);

generating a convolution kernel (column 9 lines 54-57 and figure 13) from a

plurality of available convolution kernels based on the calculated local context metric

(column 9 lines 35-45); and

using the generated convolution kernel to generate at least one pixel in the

destination image (figure 11, quantizer 206, column 5 lines 44-47).

Claim 2:

Miyake teaches the method as defined in claim 1, further comprising the step of

repeating the calculating, generating, and using steps for each pixel in the destination

image (each pixel of the image is processed as described for claim 1.

Claim 5:

Miyake teaches the method as defined in claim 1, wherein the available convolution

kernels include at least one smoothing kernel (column 9 lines 51-55, to prevent the fine

lines from being cut, a smoothing kernel is inherently used) and at least one sharpening

kernel (column 9 lines 51-55, to prevent the corners from being smoothed , a sharpening kernel is inherently used).

Claim 6:

Miyake teaches the method as defined in clam 1, wherein the local context metric has more than two possible values (There more than two filters in 302 illustrated in figure 11 and column 10 line 20 detects a number of gray levels in the determining of the local context metric).

Claims 8, 9, and 12:

These claims are machine-readable medium claims that claim the same steps of method claims 1, 2 and 6. Miyake teaches a machine-readable medium encoded with a program for scaling a source image to produce a destination image at column 14 lines 7-10 Thus, claims 8, 9 and 12 are rejected for the reasons given for rejecting the steps of method claims 1, 2 and 6 and in view of column 14 lines 7-10.

Claims 14, 15, and 18:

These claims are image scaling device claims with device elements that perform the same function that the steps of method claims 1, 2 and 6 perform. Thus, claims 14, 15 and 18 are rejected for the reasons given for rejecting the steps of method claims 1, 2 and 6.

Claims 20 and 21:

These claims are display device claims with display device elements that perform the

same function that the device elements of image scaling device claims 14 and 15

perform. These claims additionally claim a display device which is taught at column 5

line 22. Thus, claims 20 and 21 are rejected for the reasons given for rejecting the

device elements of image scaling device claims 14 and 15 and in view of column 5 line

22.

8.   Claims 1, 2, 6, 8, 9, 12, 14, 15, 18, 20, 21, and 24 are rejected under 35

U.S.C. 102(e) as being anticipated by Lin, U.S. Patent No. 6,044,178. Figures 2 and 3,

column 1 lines 6-12, column 2 lines 56-67 and column 5 line 58 to column 6 line 4

describes scaling a source image to produce a destination image. The following

detailed analysis illustrates how Miyake anticipates applicants claimed invention.

Claim 20:

A display device (figures 2 and 3) that receives source image pixels and displays a

scaled destination image (column 1 lines 6-12), said display device comprising:

        context sensor for calculating a local context metric based on local source image

pixels (column 2 lines 56-58, column 4 lines 47-50, and column 5 lines 21-34, text

segmentation unit 58 and image separation unit 66);

kernel generator (column 6 lines 21-22, 37 and 58) coupled to the context sensor,

the kernel generator generating a current convolution kernel from a plurality of available

convolution kernels based on the local context metric calculated by the context sensor,

a scaler (column 6 lines 22-24, 37-42, 58-63) coupled to the kernel generator, the scaler

receiving the coefficients of the current convolution kernel from the kernel generator, the

scaler using the coefficients to generate at least one pixel of the destination image from

pixels of the source image, and

a display (LCD 100) for displaying the scaled destination image.

Claim 21:

Lin teaches the display device as defined in claim 20, wherein the context sensor

calculates a local context metric for each pixel (column 4 lines 47-50) in the destination

image.

Claim 24:

Lin teaches the display device as defined in claim 20, wherein the display is an LCD

display (LCD panel 100, column 2 lines 45-55).

Claims: 1, 2, 8, 9, 14 and 15:

These claims are method claims (1 and 2), machine-readable medium claims (8 and 9,

see Lin's claim 24) and image scaling device claims (14 and 15) which correspond to

claims 20 and 21 above and these claims are rejected for the reasons given for

rejecting claims 20 and 21.

Claims: 6, 12 and 18:

These claims claim wherein the local context metric has more than two possible values.

Lin teaches this by filtering the white and black character and the background image

separately, thus, Lin teaches three possible values for the context metric.

Claim Rejections - 35 USC § 103

9.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

10.   Claims 3, 4, 7, 10, 11, 13, 16, 17, 19, 22 and 23 are rejected under 35 U.S.C.

103(a) as being unpatentable over Miyake, U.S. Patent No. 6,088,489.

Claim 3:

Claim 3 claims: *The method as defined in claim 1, further comprising the step of*

storing all available convolution kernels in a memory, wherein in the generating step,

one of the stored convolution kernels is selected based on the calculated local context

metric.

Miyake and claim 1 has been discussed above.

Miyake does not teach storing all available convolution kernels in a memory.

Miyake does not discuss where the kernel such as that shown in figure 13 is acquired,

however, the quantization coefficients are stored in a table 207. Thus, it would have

been obvious to one of ordinary skill in the art at the time of applicants invention to store

all of the kernels in a memory because it would be easier for the system to read the

kernel than to calculate the kernel.

Claims 10, 16 and 22:

These claims are machine-readable medium claims (10), image scaling device claims

(16) and display device claims (22) which correspond to claim 3 above and these claims

are rejected for the reasons given for rejecting claim 3.

Claim 4:

Claim 4 claims: *The method as defined in claim 1, further comprising the step of:*

storing at least two convolution kernels in a memory, wherein in the generating step,

either one of the stored convolution kernels is selected or another convolution kernel is

generated by interpolating the stored convolution kernels.

Miyake and claim 1 has been discussed above.

Miyake does not teach storing at least two convolution kernels in a memory and does

not teach generating a convolution kernel by interpolating the stored convolution

kernels, however, the quantization coefficients are stored in a table 207. Thus, it would

have been obvious to one of ordinary skill in the art at the time of applicants invention to

store at least two of the kernels in a memory and to interpolate the other kernels from

the stored kernels because it would be easier for the system to read the kernel than to

calculate the kernel and because it would save memory is some of the kernels are

interpolated from the stored kernels which calculation is less complex than to calculate

the kernel without having at least two kernels to interpolate.

Claims 11, 17 and 23:

These claims are machine-readable medium claims (11), image scaling device claims

(17) and display device claims (23) which correspond to claim 4 above and these claims

are rejected for the reasons given for rejecting claim 4.

Claim 7:

Claim 7 claims: *The method as defined in claim 6, wherein the available convolution*

kernels include a complete smoothing kernel, a complete sharpening kernel, and a

plurality of other kernels that provide a transition between the complete sharpening

kernel and the complete smoothing kernel.

    Miyake and claim 6 has been discussed above.

    Miyake does teach wherein the available convolution kernels include at least one

smoothing kernel (column 9 lines 51-55, to prevent the fine lines from being cut, a

smoothing kernel is inherently used) and at least one sharpening kernel (column 9 lines

51-55, to prevent the corners from being smoothed , a sharpening kernel is inherently

used).

Miyake does not teach a complete smoothing kernel, a complete sharpening kernel, and a plurality of other kernels that provide a transition between the complete sharpening kernel and the complete smoothing kernel.

Since Miyake does teach a smoothing kernel and a sharpening kernel Miyake suggests a complete smoothing kernel and sharpening kernel.

Since Miyake teaches a plurality of filters between smoothing and sharpening Miyake suggests a plurality of kernels between smoothing and sharpening.

Thus, it would have been obvious to one of ordinary skill in the art at the time of applicants invention to have a complete smoothing kernel, a complete sharpening kernel, and a plurality of other kernels that provide a transition between the complete sharpening kernel and the complete smoothing kernel because this will allow Miyake to filter lines and corners.

Claims 13 and 19:

These claims are machine-readable medium claims (13) and image scaling device claims (19) which correspond to claim 7 above and these claims are rejected for the reasons given for rejecting claim 7.

11.   The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Walowit et al., U.S. Patent No. 5,131,057 and the article Adaptive Scale Filtering" A General Method for Obtaining Shape from Texture describe adaptive filters.

12.   Any inquiry concerning this communication or earlier communications from

the examiner should be directed to Jeffery A. Brier whose telephone number is (703)

305-4723. The examiner can normally be reached on M-F from 6:30 to 3:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Michael Razavi, can be reached at (703) 305-4713).

Any response to this action should be mailed to:

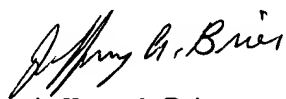Commissioner of Patents and Trademarks

Washington, D.C. 20231

or faxed to:

(703) 872-9314 (for Technology Center 2600 only)

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal

Drive, Arlington, VA, Sixth Floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application or

proceeding should be directed to the Technology Center 2600 Customer Service Office

whose telephone number is (703) 306-0377.

Jeffery A Brier
Primary Examiner
Art Unit 2672